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(54) **COMMUNICATION NETWORK ACROSS WHICH PACKETS OF DATA ARE TRANSMITTED ACCORDING TO A PRIORITY SCHEME**

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(57) **ABSTRACT**

Architectures, systems, and methods are provided for securing and prioritizing packets of data sent through a communication network. Each packet is assigned a security code and priority code as it enters the network. The security code or priority code may remain the same or change as it travels from node-to-node across the network. By assigning security and priority codes to each packet, maximum bandwidth allocation can be achieved among the nodes in a packet-switched environment. The assigned security and priority codes enter and travel through the network according to modules which have a hierarchical class or grouping. Thus, the security and priority information may be sent solely within one class or among classes depending on where, within the classes the data path exists. In this manner, a specified quality of service can be achieved to ensure the data path is secured dynamically as it travels from node to node, and also to determine which packet among several is to be forwarded across a shared resource of that network.

13 Claims, 11 Drawing Sheets